

Exhibit 12 Part 13

Part 4 of Attachment L to the Allocation Recommendation Report (ARR2295-ARR2391)

United States' Motion to Enter Consent Decree,
United States v. Alden Leeds, Inc. et al., Civil Action No. 22-7326 (D.N.J.)

Allocation Facility Cmass Calculation

Drum Service of Newark Inc.

120 Lister Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	-	100.00%	-	0.00%	170.10	100.00%	-	0	1.018817E-2	0
Lead	100.00%	-	100.00%	-	0.00%	38.54	100.00%	-	0	1.018817E-2	0
Mercury	100.00%	-	100.00%	-	0.00%	0.43	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	-	100.00%	-	0.00%	136.76	100.00%	-	0	1.018817E-2	0
LPAHs	100.00%	-	100.00%	-	0.00%	91.17	100.00%	-	0	1.018817E-2	0
PCBs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Drum Service of Newark Inc.

120 Lister Avenue

Newark

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Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0	0	0
Lead	0.01	3,200,000.00	0	0	0
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0	0	0
LPAHs	0.01	170,000.00	0	0	0
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

ARR2296

Allocation Facility COC Base Scores - Alternative Calculation

Drum Service of Newark Inc.

120 Lister Avenue

Newark

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Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	0	0	0	0	0
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	0	0	0	0	0
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	0	0	0	0	0
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	0	0	0	0	0
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Drum Service of Newark Inc.

120 Lister Avenue

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Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
3,225,100	gal discharged per day/week/month	PVSC Permit
1997	# hours/yr discharged	No COC or Discharge Information
2004	#days/week discharged	Drum Refurbishing, so consider similar to Truck Washwater
7	#weeks/yr discharged	
	calc gal/yr discharge	
	1997 Yr Ops started	
	2004 Yr Ops ceased	
	7 calc #yrs facility operated	
Copper (Cu)		
7	#yrs facility discharged	Estimate based on Quality Carriers
1.99	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
170.10	calc kg COC discharged	
Lead (Pb)		
7	#yrs facility discharged	Estimate based on Quality Carriers
0.45	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
38.54	calc kg COC discharged	
Mercury (Hg)		
7	#yrs facility discharged	Estimate based on Quality Carriers
0.0050	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
0.43	calc kg COC discharged	
HPAHs		
7	#yrs facility discharged	
1,067.00	calc mg/L O&G	Estimate based on Quality Carriers
2.5%	% TOC that is considered O&G	
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
1.60	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
136.76	calc kg COC discharged	
LPAHs		
7	#yrs facility discharged	
1,067.00	calc mg/L O&G	Estimate based on Quality Carriers
2.5%	% TOC that is considered O&G	
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
1	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
91.17	calc kg COC discharged	
PCBs		
-19	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-24	#yrs facility discharged within DDX Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
-9	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
7	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
8	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
-11	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
-21	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
170.10	kg Copper	
38.54	kg Lead	
0.43	kg Mercury	
136.76	kg HPAHs	
91.17	kg LPAHs	
-	kg PCBs	
-	kg DDX	

-	kg Dieldrin	
-	kg Dioxins/Furans	

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Drum Service of Newark Inc.

120 Lister Avenue

Newark

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Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
0	5.0%	Occasional Noncompliance	Drum Services is listed as a company that was issued fines from PVSC during the August 1, 1997 to July 31, 1998; August 1, 1998 to July 31, 1999 and the August 1, 2000 to July 31, 2001 time periods (PAS-00017752; PAS-00021364). No additional information was provided in the files reviewed.	20.0%	20% Failed to participate in conduct of allocation as offered by EPA	0
						AP_ABS 0

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Drum Service of Newark Inc.

120 Lister Avenue

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Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
0	5.0%	Occasional Noncompliance	Drum Services is listed as a company that was issued fines from PVSC during the August 1, 1997 to July 31, 1998; August 1, 1998 to July 31, 1999 and the August 1, 2000 to July 31, 2001 time periods (PAS-00017752; PAS-00021364). No additional information was provided in the files reviewed.	20.0%	20% Failed to participate in conduct of allocation as offered by EPA	0
						AP_ABS 0

Allocation Facility Cmass Calculation

Elan Chemical Co., Inc.

268 Doremus Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	-	100.00%	-	0.00%	2,284.50	100.00%	-	0	1.018817E-2	0
Lead	100.00%	-	100.00%	-	0.00%	340.83	100.00%	-	0	1.018817E-2	0
Mercury	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	6.59	100.00%	-	0.00%	736.93	100.00%	-	6.59	1.018817E-2	0.07
LPAHs	100.00%	1.39	100.00%	-	0.00%	491.29	100.00%	-	1.39	1.018817E-2	0.01
PCBs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Elan Chemical Co., Inc.

268 Doremus Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0	0	0
Lead	0.01	3,200,000.00	0	0	0
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0.07	2.798E-7	1.399E-8
LPAHs	0.01	170,000.00	0.01	8.330E-8	8.330E-10
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

Elan Chemical Co., Inc.

268 Doremus Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	0	0	0	0	0
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	0	0	0	0	0
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	1.516E-6	0.07	0.3	1.516E-6	7.581E-8
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	4.614E-7	0.01	0.06	4.614E-7	4.614E-9
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Elan Chemical Co., Inc.

268 Doremus Avenue

Newark

NJ

07105

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
72,562	gal discharged per day PAS00014428, PAS00014536, PAS00061069, PAS00059971	1975 sampling for PVSC Sewer App Permit, 1979 PVSC Sewer App Permit, Phase I Environmental Assessment, 1995 Permit
24	# hours/per day discharged	
5	#days/week discharged	Runoff from facility is treated in onsite effluent sump, which is part of onsite wastewater system.
52	#weeks/yr discharged	NJPDDES permit is for operation of onsite treatment system.
18,866,156	calc gal/yr discharge	All drains and outside storm water connect to effluent sump pit to PVSC.
1977	Yr Ops started	
2020	Yr Ops ceased	
43	calc: #yrs facility operated	
Copper (Cu)		
43	#yrs facility discharged	
0.744	calc mg/L COC discharged PAS00014428, PAS00014536	1975 sampling for PVSC Sewer App Permit -- permit discharge limits not used
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
2,284.50	calc kg COC discharged	
Lead (Pb)		
43.000	#yrs facility discharged	
0.111	calc mg/L COC discharged PAS00014428, PAS00014536	1975 sampling for PVSC Sewer App Permit -- permit discharge limits not used
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
341	calc kg COC discharged	
Mercury (Hg)		
43	#yrs facility discharged	
-	calc mg/L COC discharged PAS00014428	1975 sampling for PVSC Sewer App Permit -- permit discharge limits not used
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAhs		
43	#yrs facility discharged	
4.00	calc mg/L COC discharged PAS00014428	calcs used to convert mg/kg O&G to HPAhs; remove if not needed
10%	% O&G that is considered PAHs	1975 sampling for PVSC Sewer App Permit -- permit discharge limits not used
60%	% PAHs considered as HPAhs	
0.24	calc mg/L HPAhs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
736.93	calc kg COC discharged	
LPAHs		
43	#yrs facility discharged	
4.00	calc mg/L COC discharged PAS00014428	calcs used to convert mg/kg O&G to LPAHs; remove if not needed
10%	% O&G that is considered PAHs	1975 sampling for PVSC Sewer App Permit -- permit discharge limits not used
40%	% PAHs considered as LPAHs	
0.16	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
491.29	calc kg COC discharged	
PCBs		
1	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-4	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
11	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
43	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
44	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
9	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
-1	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
2,284.50	kg Copper	
340.83	kg Lead	
-	kg Mercury	
736.93	kg HPAhs	
491.29	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	

-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	4 ACRES - TOTAL SITE AREA (acres)	FDR p 1	
	1 ACRES - AFFECTED AREA	Approximately 25% buildings in 1977 aerial photo here https://njdep.maps.arcgis.com/apps/webappviewer/index.html	
	4,046.86 METERS ² /ACRE		
	4,047 METERS ³ (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	0 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO DITCHES	
	1977 Year site operations began	Elan-Conn acquired the site in 1968 but current Elan Chemical Co acquired it in 1977 (FDR p 1)	
	2020 Site operations continue to the present (FDR p 1) but no soil data for other soil areas		
	43 NUMBER YEARS DISCHARGE		
	17 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,915 KG/M ³ SOIL DENSITY	Fill reported as fine to medium and fine to coarse sands with gravel and residue consisting of crushed brick and cinders (PAS-00060192). Bulk density range 1346 KG/M ³ to 2483 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
	33,315 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
Copper (Cu)	43 YEARS DISCHARGED	Site is located on regional historic fill (FDR p 6)	
	0 MG/KG (MAX CONCENTRATION)	Copper chromite and copper powder inventoried on site since 1977 (FDR p 5; PAS-00059885 p 89 AKA PAS-00059973). Copper shot and copper chromite was used from approx 2002 to 2006 (FDR p 5)	
	0.000001 kg per mg (Merck Index)	Sample S4-B (1.5-2.0 ft bgs) 2,040 mg/kg (PAP-00115569). Set to 0 since less than HF.	
	0 KILOGRAMS DISCHARGED		
Lead (Pb)	43 YEARS DISCHARGED	No info on lead use (FDR p 6)	
	0 MG/KG (MAX CONCENTRATION)	Sample S4-A (0-0.5 ft bgs) 1,940 mg/kg (PAP-00115569). Set to 0 since less than HF.	
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		
Mercury (Hg)	43 YEARS DISCHARGED	No info on mercury use (FDR p 6)	
	0 MG/KG (MAX CONCENTRATION)	3.5 mg/kg 1.1 mg/kg Sample A-1 (1.5-2.0 ft bgs) (PAP-00115568). Set to 0 since less than HF.	
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	43 YEARS DISCHARGED		
	25.7 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)	Sample S4-A (0-0.5 ft bgs). S4-A is from outside the drum storage area and therefore represents background contamination level (PAS-00060200)	
	0.000001 kg per mg (Merck Index)	Benzo(a)pyrene 21.600	1.0 21.6000
	1 KILOGRAMS DISCHARGED	Benzo(a)anthracene 17.100	0.1 1.7100
PAHs (others detected)	43 YEARS DISCHARGED	Benzo(b)fluoranthene 21.900	0.1 2.1900
	38 MG/KG (TOTAL PAH MAX CONCENTRATION)	Benzo(k)fluoranthene 17.800	0.01 0.1780
	0.000001 kg per mg (Merck Index)	Chrysene 16.400	0.001 0.0164
	1 KILOGRAMS DISCHARGED	Dibenz(a,h)anthracene 0.000	1.0 0.0000
		Indeno(1,2,3-cd)pyrene 0.000	0.1 0.0000
		Total Benzo(a)pyrene Equivalents =	25.7
		Data below the Benzo(a)pyrene Equivalent Table	

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	21.600	1.0	21.6000
Benzo(a)anthracene	17.100	0.1	1.7100
Benzo(b)fluoranthene	21.900	0.1	2.1900
Benzo(k)fluoranthene	17.800	0.01	0.1780
Chrysene	16.400	0.001	0.0164
Dibenz(a,h)anthracene	0.000	1.0	0.0000
Indeno(1,2,3-cd)pyrene	0.000	0.1	0.0000

PCBs

43 YEARS DISCHARGED

MG/KG AVG OF REPORTED CONCENTRATIONS)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

DDx

43 YEARS DISCHARGED within DDx Timeline

MG/KG (MAX CONCENTRATION)

3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dieldrin

43 YEARS DISCHARGED within Dieldrin Timeline

MG/KG (MAX CONCENTRATION)

3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dioxins/Furans

NONE FOUND IN AVAILABLE DOCUMENTATION

43 YEARS DISCHARGED

MG/KG (MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)

0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:

0.00 kg Copper
0.00 kg Lead
0.00 kg Mercury
0.86 kg PAHs (Benz(a)pyrene Equivalent)
1.27 kg PAHs (Other)
0.00 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

Sample S4-A (0-0.5 ft bgs) (PAS-00060200)	
Anthracene	7.09
Acenaphthene	2.56
Acenaphthylene	0
Fluorene	0
Naphthalene	0
Phenanthrene	28.4
2-Methylnaphthalene	0
SUM	38.05

2.12 MASS (KG) DISCHARGED FROM SURFACE SOIL

Discharge Calcs

Direct Discharge Information
4.08 FEET/YEAR AVERAGE PRECIPITATION

ASSUMPTIONS, REFERENCES
Long term average annual precipitation includes floods and hurricane events occurring over time.

COMMENTS/NOTES
Data from Rutgers University.

4 ACRES - TOTAL SITE AREA (acres)

0.367 ACRES - AFFECTED AREA

FDR p 1

Unpaved, gravel drum storage area is approx 100' x 160' (Fig 3, PAP-00115573).

4,046.86 METERS²/ACRE

1,486 METERS² (AFFECTED AREA)

0.0001 METERS/YEAR (ERODED SOIL THICKNESS)

For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.

0 METERS³/YEAR (ERODED SOIL VOLUME)

VOLUME/YEAR DISCHARGED TO DITCHES

1977 Year site operations began

Elan-Conn acquired the site in 1968 but the current Elan Chemical Co acquired it in 1977 (FDR p 1)

1992 Year drum storage area was capped (FDR p 12; PAP-00115565)

15 NUMBER YEARS DISCHARGE

2 METERS³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)

1,915 KG/M³ SOIL DENSITY

Fill reported as fine to medium and fine to coarse sand with gravel and residue consisting of crushed brick and cinders (PAS-00060192). Bulk density range 1346 KG/M³ to 2483 KG/M³, so use average. (http://structx.com/Soil_Properties_002.html)

4,269 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)

Copper (Cu)

Site is located on regional historic fill (FDR p 6)
Copper chromite and copper powder inventoried on site since 1977 (FDR p 5; PAS-00059885 p 89 AKA PAS-00059973). Copper shot and copper chromite was used from approx 2002 to 2006 (FDR p 5)

15 YEARS DISCHARGED

0 MG/KG (MAX CONCENTRATION)

Sample S3-A (0-0.5 ft bgs) 1,120 mg/kg collected in 1991 prior to capping (PAP-00115569). Set to 0 since less than HF.

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Lead (Pb)

No info on lead use (FDR p 6)

15 YEARS DISCHARGED

0 MG/KG (MAX CONCENTRATION)

Sample S3-A (0-0.5 ft bgs) 1,370 mg/kg collected in 1991 prior to capping (PAP-00115569). Set to 0 since less than HF.

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Mercury (Hg)

No info on mercury use (FDR p 6)

15 YEARS DISCHARGED

0 MG/KG (MAX CONCENTRATION)

Sample E-1 (1.5-2.0 ft bgs) collected in 1992 prior to capping (PAP-00060199). Set to 0 since less than HF.

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)

15 YEARS DISCHARGED

5.7 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

PAHs (others detected)

15 YEARS DISCHARGED
28 MG/KG (TOTAL PAH MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

PCBs

15 YEARS DISCHARGED

MG/KG AVG OF REPORTED CONCENTRATIONS)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

DDx

15 YEARS DISCHARGED within DDx Timeline
MG/KG (MAX CONCENTRATION)
3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dieldrin

15 YEARS DISCHARGED within Dieldrin Timeline
MG/KG (MAX CONCENTRATION)
3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dioxins/Furans

NONE FOUND IN AVAILABLE DOCUMENTATION
15 YEARS DISCHARGED
0 MG/KG (MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)

0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:

0.00 kg Copper
0.00 kg Lead
0.00 kg Mercury
5.73 kg PAHs (Benzo(a)pyrene Equivalent)
0.12 kg PAHs (Other)
0.00 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

5.85 MASS (KG) DISCHARGED FROM SURFACE SOIL

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Sample A-1 (1.5-2.0 ft bgs) collected in 1992 prior to capping (PAP-00060200). Highest concentrations within drum storage area			
Benzo(a)pyrene	4.100	1.0	4.1000
Benzo(a)anthracene	5.150	0.1	0.5150
Benzo(b)fluoranthene	8.650	0.1	0.8650
Benzo(k)fluoranthene	0.000	0.01	0.0000
Chrysene	4.480	0.001	0.0045
Dibenz(a,h)anthracene	0.000	1.0	0.0000
Indeno(1,2,3-cd)pyrene	2.460	0.1	0.2460

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents =

5.7

Sample A-1 (1.5-2.0 ft bgs) collected in 1992 prior to capping (PAP-00060200). Highest concentrations within drum storage area	
Anthracene	0.28
Fluoranthene	18.2
Phenanthrene	10
SUM	28.48

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Elan Chemical Co., Inc.

268 Doremus Avenue

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
1.112E-8	5.0%	Occasional Noncompliance	PVSC filed suit against Elan alleging that Elan discharged pollutants in excess of the discharge limitations of its PVSC Permit No. 20403242 (PAS-00059893, PAS-00060847 et seq.). No OU2 COCs were alleged to be associated with these discharges (PAS-00060849-50). An inspection of Elan by the NJDEP in December 1988 noted a drum storage area was sloped down into drainage depressions, which flowed to the Passaic River. Oil was observed to be leaking from the drums and evidence was found of past spills of other materials in the area. (PAS-00061334-37).	0.0%	0% Cooperation with conduct of allocation and requests for related information	1.167E-8
AP_ABS						1.167E-8

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Elan Chemical Co., Inc.

268 Doremus Avenue

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
6.032E-8	5.0%	Occasional Noncompliance	PVSC filed suit against Elan alleging that Elan discharged pollutants in excess of the discharge limitations of its PVSC Permit No. 20403242 (PAS-00059893, PAS-00060847 et seq.). No OU2 COCs were alleged to be associated with these discharges (PAS-00060849-50). An inspection of Elan by the NJDEP in December 1988 noted a drum storage area was sloped down into drainage depressions, which flowed to the Passaic River. Oil was observed to be leaking from the drums and evidence was found of past spills of other materials in the area. (PAS-00061334-37).	0.0%	0% Cooperation with conduct of allocation and requests for related information	6.333E-8
						AP_ABS 6.333E-8

Allocation Facility Cmass Calculation

EnPro Holdings, Inc.

900-1000 South 4th Street

Harrison

NJ

07029

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COCA%	COC Historic Cmass
Copper	100.00%	-	100.00%	1,458.70	0.00%	1,397.92	100.00%	50,705.1	52,163.83	1.018817E-2	531.45
Lead	100.00%	-	100.00%	1,222.69	0.00%	1,171.75	100.00%	42,501.3	43,724.02	1.018817E-2	445.47
Mercury	100.00%	9.87	100.00%	-	0.00%	-	100.00%	-	9.87	1.018817E-2	0.1
HPAHs	100.00%	5.52	100.00%	55,138.10	0.00%	52,840.68	100.00%	1,916,623.3	1,971,766.87	1.018817E-2	20,088.7
LPAHs	100.00%	9.47	100.00%	36,772.05	0.00%	35,239.88	100.00%	1,278,211.6	1,314,993.14	1.018817E-2	13,397.38
PCBs	100.00%	4.11	100.00%	-	0.00%	-	100.00%	-	4.11	1.018817E-2	0.04
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

EnPro Holdings, Inc.

900-1000 South 4th Street

Harrison

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Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	531.45	2.531E-4	1.746E-4
Lead	0.01	3,200,000.00	445.47	1.392E-4	1.392E-6
Mercury	0.95	42,000.00	0.1	2.394E-6	2.275E-6
HPAHs	0.05	240,000.00	20,088.7	8.370E-2	4.185E-3
LPAHs	0.01	170,000.00	13,397.38	7.881E-2	7.881E-4
PCBs	12.87	26,000.00	0.04	1.611E-6	2.073E-5
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

EnPro Holdings, Inc.

900-1000 South 4th Street

Harrison

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Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	1.883E-1	531.45	394,991.18	1.883E-1	1.300E-1
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	1.515E-1	445.47	484,404.44	1.515E-1	1.515E-3
Mercury	0.95	42,000.00	4,322.53	41,955.96	2.283E-3	0.1	95.8	2.283E-3	2.169E-3
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	4.537E-1	20,088.7	88,788.83	4.537E-1	2.268E-2
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	4.365E-1	13,397.38	60,801.45	4.365E-1	4.365E-3
PCBs	12.87	26,000.00	20,066.54	25,795.56	2.048E-4	0.04	5.28	2.048E-4	2.636E-3
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

EnPro Holdings, Inc.

900-1000 South 4th Street

Harrison

NJ

07029

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	Steel Mill/Arms Production
	# hours/per day discharged	No available data on any discharge volumes or COCs.
	#days/week discharged	Prior to 1971, directly discharged to Passaic River
	#weeks/yr discharged	From 1971-1974 discharged to POTW
951,012,000	calc gal/yr discharge	All information based on Research from various sources: - EPA Sector Notebook - Studies of Environmental Science, Volume 5, 1979 pages 217-227
1971	Yr Ops started	
1974	Yr Ops ceased	10m^3 of wastewater per ton of steel produced
4	calc #yrs facility operated	assume 360,000 tons/year steel
Copper (Cu)		
4	#yrs facility discharged	1574.10 #/year based on EPA Sector Notebook, Exhibit 8
0.1984	calc mg/L COC discharged	converted to 0.198 mg/l based on volume
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
2,856.63	calc kg COC discharged	
Lead (Pb)		
4	#yrs facility discharged	1319.83 #/year based on EPA Sector Notebook, Exhibit 8
0.1663	calc mg/L COC discharged	converted to 0.1663 mg/l based on volume
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
2,394.44	calc kg COC discharged	
Mercury (Hg)		
4	#yrs facility discharged	No Mercury
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
4	#yrs facility discharged	5% Oil and Grease in Wastewater per Studies of Env Science Reference
124.99	calc mg/L O&G	assume .25% of the 5% is discharged = 124.99 mg/l oil and grease
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
7.4994	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
107,978.77	calc kg COC discharged	
LPAHs		
4	#yrs facility discharged	5% Oil and Grease in Wastewater per Studies of Env Science Reference
124.99	calc mg/L O&G	assume .25% of the 5% is discharged = 124.99 mg/l oil and grease
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	plus
5.0014	calc mg/L LPAHs	Naphthalene = .0015mg/l
3.785	L per gallon (Merck Index)	Anthracene = .000311 mg/l
0.000001	kg per mg (Merck Index)	
72,011.92	calc kg COC discharged	
PCBs		
4	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
2	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
4	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
4	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
4	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
4	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
4	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
2,856.63	kg Copper	
2,394.44	kg Lead	
-	kg Mercury	
107,978.77	kg HPAHs	
72,011.92	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	
	# days/week discharged	
	# weeks/yr discharged	
951,012,000	# gals/yr directly discharged	COC concentrations same as for PVSC
4.08	ft; 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft2 per acre	
1900	Yr Ops started	
1971	Yr Ops ceased	
71	calc #yrs facility operated	
Copper (Cu)		
71	#yrs facility discharged	
0.1984	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
50,705.13	calc kg COC discharged	
Lead (Pb)		
71	#yrs facility discharged	
0.1663	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
42,501.33	calc kg COC discharged	
Mercury (Hg)		
71	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
71	#yrs facility discharged	
7,4994	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,916,623.23	calc kg COC discharged	
LPAHs		
71	#yrs facility discharged	
5,0014	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,278,211.66	calc kg COC discharged	
PCBs		
43	#yrs facility discharged within PCBs Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
32	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
22	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
71	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
26	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
27	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
22	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
50,705.13	kg Copper	
42,501.33	kg Lead	
-	kg Mercury	
1,916,623.23	kg HPAHs	
1,278,211.66	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	48 ACRES - TOTAL SITE AREA (acres)	FDR, Page 1	
	24 ACRES - AFFECTED AREA	Approximately half of site was covered by buildings (Sanborn).	
	4,046.86 METERS ² /ACRE		
	97,125 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	10 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO PASSAIC RIVER	
	1900 Year site operations began	FDR, Page 1.	
	1947 Year site processing and storage operations ceased	FDR, Page 1.	
	48 NUMBER YEARS DISCHARGE		
	466 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,963 KG/M ³ SOIL DENSITY	Site soil to depths of 15 feet bgs consists of fill (black cinders, gravel, sand, and silt with varying degrees of refuse (paper, plastic, concrete, brick, etc.) and slag (PAP-00031288). Bulk density range for silty sand and gravel 1442 KG/M ³ to 2483 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
	915,147 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
Copper (Cu)	48 YEARS DISCHARGED		
	0 MG/KG (MAX CONCENTRATION)	Copper concentration in post-excavation soil sample S-202 (PAP-00083223). Set to 0 since less than HF.	
	0.000001 kg per mg (Merck Index)		
	0.00 KILOGRAMS DISCHARGED		
Lead (Pb)	48 YEARS DISCHARGED		
	0 MG/KG (MAX CONCENTRATION)	Lead concentration in post-excavation soil sample S-202 (PAP-00083223). Set to 0 since less than HF.	
	0.000001 kg per mg (Merck Index)		
	0.00 KILOGRAMS DISCHARGED		
Mercury (Hg)	48 YEARS DISCHARGED		
	10.20 MG/KG (MAX CONCENTRATION)	Mercury concentration in post-excavation soil sample S-203 (PAP-00083223).	
	0.000001 kg per mg (Merck Index)		
	9.33 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	48 YEARS DISCHARGED	Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample .	
	5.4 MG/KG (TOTAL PAH MAC CONCENTRATION)	Sum of Benzo(a)pyrene Equivalent conversion concentrations using maximum concentrations.	
	0.000001 kg per mg (Merck Index)		
	4.90 KILOGRAMS DISCHARGED		
PAHs (others detected)	48 YEARS DISCHARGED	Data below the Benzo(a)pyrene Equivalent Table	
	10 MG/KG (TOTAL PAH MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	9.04 KILOGRAMS DISCHARGED		
PCBs	17 YEARS DISCHARGED		
	3.8 MG/KG (MAX CONCENTRATION)	Number of years reflect a 1930 start date for PCBs. Maximum total PCB soil concentration in sample RR Tracks (PAP-00083250)	
	0.000001 kg per mg (Merck Index)		
	3.48 KILOGRAMS DISCHARGED		
DDx	0 YEARS DISCHARGED within DDx Timeline		
	0 MG/KG (MAX CONCENTRATION)		
	3.785 L per gallon (Merck Index)		
	0.000001 kg per mg (Merck Index)		
	0.00 KILOGRAMS DISCHARGED		

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Surface soil sample B-7 (PAP-00030278)			
Benzo(a)pyrene	3.900	1.0	3.9000
Benzo(a)anthracene	4.000	0.1	0.4000
Benzo(b)fluoranthene	6.100	0.1	0.6100
Benzo(k)fluoranthene	0.000	0.01	0.0000
Chrysene	4.600	0.001	0.0046
Dibenz(a,h)anthracene	0.340	1.0	0.3400
Indeno(1,2,3-cd)pyrene	0.990	0.1	0.0990
DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg			
Total Benzo(a)pyrene Equivalents = 5.4			

Sample B-6 (0-0.5 ft bgs) (PAP-00030278-9)	
Anthracene	1.6
Acenaphthene	0.89
Acenaphthylene	0.17
Fluorene	0.54
Naphthalene	0.48
Phenanthrene	6.2
2-Methylnaphthalene	0
SUM	9.88

Dieldrin

NONE FOUND IN AVAILABLE DOCUMENTATION

0 YEARS DISCHARGED within Dieldrin Timeline
0 MG/KG (MAX CONCENTRATION)
3.785 L per gallon (Merck Index)
0.000001 kg per mg (Merck Index)

0.00 KILOGRAMS DISCHARGED

Dioxins/Furans

NONE FOUND IN AVAILABLE DOCUMENTATION

0 YEARS DISCHARGED
0 MG/KG (MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:

0.00 kg Copper
0.00 kg Lead
9.33 kg Mercury
4.90 kg PAHs (Benzo(a)pyrene Equivalent)
9.04 kg PAHs (Other)
3.48 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

26.75 MASS (KG) DISCHARGED FROM SURFACE SOIL

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	14.85 ACRES - TOTAL SITE AREA (acres)	(FDR, Page 1)	
	4 ACRES - AFFECTED AREA	Estimated 75 percent of site was covered by buildings as early as 1942 (PAP-00027959).	
	4,046.86 METERS ² /ACRE		
	14,973 METERS ³ (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	1 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO PASSAIC RIVER	
	1938 Year site operations began	FDR, Page 1.	
	1974 Year site processing and storage operations ceased	FDR, Page 1.	
	36 NUMBER YEARS DISCHARGE		
	54 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,963 KG/M ³ SOIL DENSITY	Site reported as located on Historic Fill (FDR, Page 7). Historic Fill reported as sand with silt and fine gravel. Bulk density range for silty sand and gravel 1442 KG/M ³ to 2483 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
	105,814 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
Copper (Cu)	36 YEARS DISCHARGED		
	0 MG/KG (MAX CONCENTRATION)	Copper concentration in on-site surface soil sample AOC1e-2 (PAP-00028401). Set to 0 since less than HF.	
	0.000001 kg per mg (Merck Index)		
	0.00 KILOGRAMS DISCHARGED		
Lead (Pb)	36 YEARS DISCHARGED		
	0 MG/KG (MAX CONCENTRATION)	Lead concentration in on-site soil sample AOC4-9 (PAP-00028404). Set to 0 since less than HF.	
	0.000001 kg per mg (Merck Index)		
	0.00 KILOGRAMS DISCHARGED		
Mercury (Hg)	36 YEARS DISCHARGED		
	5.10 MG/KG (MAX CONCENTRATION)	Mercury concentration in on-site soil sample SSS-5 (PAP-00028412).	
	0.000001 kg per mg (Merck Index)		
	0.54 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	36 YEARS DISCHARGED	Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample .	
	5.9 MG/KG (TOTAL PAH MAX CONCENTRATION)	Sum of Benzo(a)pyrene Equivalent conversion concentrations using maximum concentrations.	
	0.000001 kg per mg (Merck Index)		
	0.62 KILOGRAMS DISCHARGED		
PAHs (others detected)	36 YEARS DISCHARGED	Data below the Benzo(a)pyrene Equivalent Table	
	4.1 MG/KG (TOTAL PAH MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	0.43 KILOGRAMS DISCHARGED		
PCBs	36 YEARS DISCHARGED		
	5.97 MG/KG (MAX CONCENTRATION)	PCBs concentration in on-site post-excavation soil sample AOEB/C-S1(PW) (PAP-00028874). Sample collected between 6-6.5 feet bgs.	
	0.000001 kg per mg (Merck Index)		
	0.63 KILOGRAMS DISCHARGED		
DDx	NONE FOUND IN AVAILABLE DOCUMENTATION		
	0 YEARS DISCHARGED within DDx Timeline		
	0.0061 MG/KG (MAX CONCENTRATION)	4,4-DDE concentration in on-site soil sample GREEN-S1 (PAP-00028849). Sample collected between 3-3.5 feet bgs.	
	3.785 L per gallon (Merck Index)		
	0.000001 kg per mg (Merck Index)		
	0.00 KILOGRAMS DISCHARGED		

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Surface soil sample AOC1e-2 (PAP-00028401)			
Benzo(a)pyrene	3.740	1.0	3.7400
Benzo(a)anthracene	4.770	0.1	0.4770
Benzo(b)fluoranthene	5.820	0.1	0.5820
Benzo(k)fluoranthene	2.550	0.01	0.0255
Chrysene	4.980	0.001	0.0050
Dibenz(a,h)anthracene	0.784	1.0	0.7840
Indeno(1,2,3-cd)pyrene	2.640	0.1	0.2640
DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg			
Total Benzo(a)pyrene Equivalents = 5.9			

Sample AOC1e-2 (PAP-00028401)	
Anthracene	0.61
Acenaphthene	0.07
Acenaphthylene	0.43
Fluorene	0.06
Naphthalene	0.31
Phenanthrene	2.62
2-Methylnaphthalene	0
SUM	4.1

Dieldrin

0 YEARS DISCHARGED within Dieldrin Timeline
0.0133 MG/KG (MAX CONCENTRATION)

Dieldrin concentration in on-site soil sample AOED-4S (PAP-00028885). Sample collected between 6-6.5 feet bgs.

3.785 L per gallon (Merck Index)
0.000001 kg per mg (Merck Index)

0.00 KILOGRAMS DISCHARGED

Dioxins/Furans

NONE FOUND IN AVAILABLE DOCUMENTATION

0 YEARS DISCHARGED
0 MG/KG (MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:

0.00 kg Copper
0.00 kg Lead
0.54 kg Mercury
0.62 kg PAHs (Benzo(a)pyrene Equivalent)
0.43 kg PAHs (Other)
0.63 kg PCBs
0.00 kg DDX
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

2.23 MASS (KG) DISCHARGED FROM SURFACE SOIL

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

EnPro Holdings, Inc.

900-1000 South 4th Street

Harrison

NJ

07029

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
5.172E-3	0.0%	Historically Compliant or No Evidence	"Small amounts" of oily waste were released to soil at the Spiegel property during the late 1960s (Questionnaire, p. 5). Specific information regarding volumes, locations, or waste types released could not be located in the file material. No information on NOVs was identified in the available file material.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	4.138E-3
						AP_ABS 4.138E-3

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

EnPro Holdings, Inc.

900-1000 South 4th Street

Harrison

NJ

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Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
1.633E-1	0.0%	Historically Compliant or No Evidence	"Small amounts" of oily waste were released to soil at the Spiegel property during the late 1960s (Questionnaire, p. 5). Specific information regarding volumes, locations, or waste types released could not be located in the file material. No information on NOVs was identified in the available file material.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	1.307E-1
						AP_ABS 1.307E-1

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

ENPRO HOLDINGS

Enpro Holdings asserts that Respondent [EnPro Holdings, Inc.] and Crucible Steel Corporation had, no relationship to any parties that released or disposed of COCs at the Facility following Crucible Steel Corporation's sales of the western portion (Guyon Property) in 1947 and 1967 and the eastern portion (Spiegel Property) in 1974.

ALLOCATOR'S DETERMINATION - While EnPro alleges that it was not an owner or operator under CERCLA, it fails to provide a substantial factual or legal basis to support that claim. The Allocator does not believe that EnPro will prevail in an action to overturn EPA's determination of EnPro as a PRP based on the supplied information.

Allocation Facility Cmass Calculation

EPEC Polymers, Inc.

290 River Drive

Garfield

NJ

07026

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COCA%	COC Historic Cmass
Copper	100.00%	747.87	100.00%	12,973.94	2.32%	31,353.69	100.00%	-	14,449.22	1.018817E-2	147.21
Lead	100.00%	1,115.01	100.00%	1,161.85	2.32%	2,807.79	100.00%	-	2,342.	1.018817E-2	23.86
Mercury	100.00%	25.29	100.00%	4.36	2.32%	10.53	100.00%	-	29.89	1.018817E-2	0.3
HPAHs	100.00%	18.8	100.00%	-	2.32%	-	100.00%	-	18.8	1.018817E-2	0.19
LPAHs	100.00%	28.79	100.00%	-	2.32%	-	100.00%	-	28.79	1.018817E-2	0.29
PCBs	100.00%	2.99	100.00%	-	2.32%	-	100.00%	-	2.99	1.018817E-2	0.03
DDx	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

EPEC Polymers, Inc.

290 River Drive

Garfield

NJ

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Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	147.21	7.010E-5	4.837E-5
Lead	0.01	3,200,000.00	23.86	7.456E-6	7.456E-8
Mercury	0.95	42,000.00	0.3	7.251E-6	6.888E-6
HPAHs	0.05	240,000.00	0.19	7.981E-7	3.990E-8
LPAHs	0.01	170,000.00	0.29	1.725E-6	1.725E-8
PCBs	12.87	26,000.00	0.03	1.172E-6	1.508E-5
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

EPEC Polymers, Inc.

290 River Drive

Garfield

NJ

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Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	5.217E-2	147.21	109,411.32	5.217E-2	3.600E-2
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	8.116E-3	23.86	25,946.23	8.116E-3	8.116E-5
Mercury	0.95	42,000.00	4,322.53	41,955.96	6.915E-3	0.3	290.13	6.915E-3	6.569E-3
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	4.325E-6	0.19	0.85	4.325E-6	2.163E-7
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	9.556E-6	0.29	1.33	9.556E-6	9.556E-8
PCBs	12.87	26,000.00	20,066.54	25,795.56	1.490E-4	0.03	3.84	1.490E-4	1.918E-3
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

EPEC Polymers, Inc.

290 River Drive

Garfield

NJ

07026

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Yantacaw	Bypass	2.32%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
696,600	gal discharged per day	
24	# hours/day discharged (PAP-00039955, PAP-00040041)	
7	# days/week discharged (PAP-00039955, PAP-00040041)	
52	# weeks/yr (PAP-00039955, PAP-00040041)	
229,996,000	calc gal/yr discharge	(FDR) (PAP-00039955-59, PAP-0040041-47, PAP-00040062-154, PAP-00040165-67, PAP-00040181-198, PAP-00040199-212)
1963	Yr Ops started	
1982	Yr Ops ceased	
19	calc #yrs facility operated	PAP-00323278
Copper (Cu)		
19	#yrs facility discharged	
2.68	calc mg/L COC discharged	(FDR) (PAP-00039955-59, PAP-0040041-47, PAP-00322628-710, PAP-00040199-212)
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
44,328	calc kg COC discharged	
Lead (Pb)		
19	#yrs facility discharged	
0.24	calc mg/L COC discharged	(FDR) (PAP-00039955-59, PAP-0040041-47, PAP-00322628-710, PAP-00040199-212)
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
3,970	calc kg COC discharged	
Mercury (Hg)		
19	#yrs facility discharged	
0.0009	calc mg/L COC discharged	(FDR) (PAP-0040041-47, PAP-00322628-710, PAP-00040199-212)
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
15	calc kg COC discharged	
HPAHs		
19	#yrs facility discharged	
-	calc mg/L Q&G;	(FDR) (PAP-0040041-47, PAP-00040199-212, PAP-00040211)
10%	% Q&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
19	#yrs facility discharged	
-	calc mg/L Q&G;	(FDR) (PAP-0040041-47, PAP-00040199-212, PAP-00040211)
10%	% Q&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		(ND at ppb)
15	#yrs facility discharged within PCBs Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
	calc kg COC discharged	
DDx		(ND at ppb)
10	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		(ND at ppb)
20	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		(believed absent in permit application)
19	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		(believed absent in permit application)
20	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		(believed absent in permit application)
20	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		(believed absent in permit application)
13	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
44,328	kg Copper	
3,970	kg Lead	
15	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	6.9 ACRES - TOTAL SITE AREA (acres)	PAP-00039956	
	2.87 ACRES - AFFECTED AREA	Buildings occupy approximately 50 percent of the facility; paved areas (primarily asphalt) cover an estimated 25 percent of the facility (After 1960). The remaining 25 percent of the surface is unpaved (1991)(PAP-00040989)	
	4,046.86 METERS²/ACRE		
	11,614 METERS² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	1 METERS³/YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO PASSAIC RIVER	
	1919 Year site operations began - 1919.	The first buildings at the Garfield Plant were constructed in 1891 by Fritzche Brothers to facilitate chemical manufacturing. Heyden had owned and operated the facility since the early 1900s as several forms of the Heyden name (PAP-00040999)	In 1919, the site was purchased by a newly formed New York corporation called Heyden Chemical Company of America Inc. The company was consolidated into the Heyden Chemical Corporation in 1925, and in 1956 changed its name to the Heyden Newport Chemical Corporation. Heyden Newport Chemical Corporation was purchased in 1963 by Tenneco. Kalama Chemical Inc. purchased the site from Tenneco in December 1982 (PAP-00032378).
	1982 Year site processing and storage operations ceased	In an agreement dated December 1, 1982 between Tenneco and Kalama Chemical, all liabilities arising out of the condition of the plant, shall remain the responsibilities of Tenneco (PAP-00039799)	
	63 NUMBER YEARS DISCHARGE	Tennessee liability 91 years, 1891 to 1982 (PAP-00040999)	
	738 METERS³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,843 KG/M³ SOIL DENSITY	The facility was built over a sequence of unconsolidated deposits consisting of fine to coarse sand, silt and clay (PAP-00040396). Cross referencing as Silty Sand at http://structx.com/Soil_Properties_002.html has a bulk density range 1410 KG/M3 to 2275 KG/M3, so use average of 1842.5 kg/m3.	
	1,359,765 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)	The average bulk density reflects cross reference result.	
			The majority of the facility site is not located on regional historic fill (FDR pg 11)
Copper (Cu)	63 YEARS DISCHARGED	Table 18 Sample ID B-47-Fill, 0.0-0.5 ft bgs. (PAP-00041872)	
	550 MG/KG (MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	748 KILOGRAMS DISCHARGED		
Lead (Pb)	63 YEARS DISCHARGED	Lead was detected in surface soil (Sample B-47-Fill) at AEC-15 (Salicylic Acid/Salicylate Production Buildings 10/36/39) at an elevated concentration (PAP-00042177, 80).	
	820 MG/KG (AVERAGE CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	1,115 KILOGRAMS DISCHARGED		
Mercury (Hg)	63 YEARS DISCHARGED	Although mercury was not identified as used in the facility processes, purchase orders from 1973 identified the purchased caustic soda as mercury cell material. Analytical results from the caustic soda manufactured using the mercury cell process were not available to verify that the caustic soda did not contain any trace impurities of mercury (PAP-00324677; PAP-00324679; PAP-00324684).	It is assumed that a spill was the source of the soil contamination and that the contamination would have migrated from the surface to the depth confirmed by soil sample analysis in 1991. Given the initial erosion would transport Hg impacted soil of greater concentrations than compared to the soil at depth in 1991, the use of the concentration at depth for the OFT estimate is conservative, with decreased soil concentration/mass than experienced at the time of the spill.
	18.6 MG/KG (MAX CONCENTRATION)	A NJDEP Pretreatment/Residual Waste Survey, dated July 27, 1981, stated mercury was present in the discharge to the POTW (PAP-00040183, 188).	
	0.000001 kg per mg (Merck Index)	Max concentration of mercury was detected in subsurface soil (depth of 4 to 4.5 feet, Sample B-53 Fill) at AEC-15 (Salicylic Acid/Salicylate Production Buildings 10/36/39) (PAP-00041873).	
	25 KILOGRAMS DISCHARGED		

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)

63 YEARS DISCHARGED
13.8 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)

0.000001 kg per mg (Merck Index)

19 KILOGRAMS DISCHARGED

PAHs (others detected)
Fluorene - 14.8 ppm
Naphthalene - 0.121 ppm
Phenanthrene - 4.6 ppm
Anthracene - 1.3 ppm
Acenaphthene - 0.111 ppm
Acenaphthylene - 0.241 ppm

63 YEARS DISCHARGED
21 MG/KG (TOTAL PAH MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)

29 KILOGRAMS DISCHARGED

PCBs

63 YEARS DISCHARGED

2.2 MG/KG (MAX OF REPORTED CONCENTRATIONS)

0.000001 kg per mg (Merck Index)

3 KILOGRAMS DISCHARGED

DDx

0 YEARS DISCHARGED within DDx Timeline
MG/KG (MAX CONCENTRATION)

3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dieldrin

0 YEARS DISCHARGED within Dieldrin Timeline
MG/KG (MAX CONCENTRATION)

3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dioxins/Furans

NONE FOUND IN AVAILABLE DOCUMENTATION

Not a COC at this Site

0 YEARS DISCHARGED

0 MG/KG (MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)

0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:

747.87 kg Copper
1,115.01 kg Lead
25.29 kg Mercury
18.80 kg PAHs (Benzo(a)pyrene Equivalent)
28.79 kg PAHs (Other)
2.99 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

1,938.75 MASS (KG) DISCHARGED FROM SURFACE SOIL

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample.

Contaminant (PAP-00040243)	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	10.000	1.0	10.0000
Benzo(a)anthracene	12.000	0.1	1.2000
Benzo(b)fluoranthene	13.000	0.1	1.3000
Benzo(k)fluoranthene	2.500	0.01	0.0250
Chrysene	12.000	0.001	0.0120
Dibenz(a,h)anthracene	1.000	1.0	1.0000
Indeno(1,2,3-cd)pyrene	2.900	0.1	0.2900

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 13.8

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

EPEC Polymers, Inc.

290 River Drive	Garfield	NJ	07026
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Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
7.047E-5	0.0%	Historically Compliant or No Evidence	PVSC identified violations for pollution entering the Passaic River in 1972, 1972, and 1976 (due to leaks and a polluting boiler blow down line), but the facility addressed the issues promptly and resolved the pollution (PAS-00008606, 10, 12-13). No evidence that COCs involved.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	5.637E-5
						AP_ABS 5.637E-5

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

EPEC Polymers, Inc.

290 River Drive	Garfield	NJ	07026
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Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
4.457E-2	0.0%	Historically Compliant or No Evidence	PVSC identified violations for pollution entering the Passaic River in 1972, 1972, and 1976 (due to leaks and a polluting boiler blow down line), but the facility addressed the issues promptly and resolved the pollution (PAS-00008606, 10, 12-13). No evidence that COCs involved.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	3.565E-2
						AP_ABS 3.565E-2

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

EPEC Polymers

EPEC and El Paso argue that they should receive a zero share of responsibility in the Allocation because neither party owned or operated the Garfield Facility, were successors to owners or operators of the Garfield Facility, and never assumed any liability for the alleged discharges at the site that are at issue in this Allocation. EPEC and El Paso have provided the relevant corporate history and supporting documents in prior allocation submissions and have attached the relevant information as Exhibits A and B to this Position Paper. There is no basis to attribute any liabilities associated with TCI's ownership and operation of the Garfield Facility to EPEC and El Paso because TCI retained any and all liabilities associated with the Garfield Facility, and those liabilities ceased to exist upon its dissolution in 1985. See PAP00039823.

EPEC asserts that EPEC Polymers, Inc. ("EPI") and El Paso Tennessee Pipeline Co. ("EPTP") received GNL letters from EPA (*it is assumed that GNL stands for General Notice Letter*); however, EPI and EPTP never owned or operated the Facility, nor were either company ever successors to any party or parties that owned or operated the Facility. Further, neither party assumed any liability for the alleged discharges at the Facility that are at issue in this allocation. EPI and EPTP respond on behalf of Tenneco Chemicals, Inc. ("TCI"), which was a former owner and operator of the Facility during the Relevant Time Period [October 4, 1963 to December 1, 1983].

The letter from Saul Ewing, Arnstein, & Lehr LLP, dated September 9, 2019, to Mr. David Batson stated that the "Heyden Newport" entity that changed its name to Tenneco Chemicals, Inc. in 1965 was not the same entity that owned the Garfield Facility prior to Tenneco's acquisition. The following statement was provided: "In 1919, Heyden Chemical Company of America, Inc., a New York corporation, reportedly acquired the Garfield Site. In 1925, Heyden Chemical Company of America was consolidated with Denhey Corporation to form Heyden Chemical Corporation, a New York corporation. In March 1943, Heyden Chemical Corporation merged into its parent company, Denhey Holding Corporation, a Delaware corporation, and Denhey Holding Corporation was renamed Heyden Chemical Corporation, also incorporated in Delaware. In March 1943, the Garfield Site was transferred by deed from Heyden Chemical Corporation, a New York corporation, to Heyden Chemical Corporation, a Delaware corporation. Heyden Chemical Corporation then changed its name to Heyden Newport Chemical Corporation ("Old Heyden"). In 1963, Tennessee Gas Transmission Company ("TGT"), Old Heyden, and HDN Corporation, a subsidiary of TGT, entered into a transaction whereby Old Heyden sold its assets to HDN in exchange for shares of TGT common stock and the assumption by HDN of certain of Old Heyden's liabilities. After the transaction, HDN changed its name to "Heyden Newport Chemical Corporation" ("Heyden Newport") and filed and recorded in Delaware a change of name amendment on October 4, 1963. At the same time, Old Heyden changed its name to "Denport Corporation" and dissolved (2019 Letter, p.2).

EPEC asserts that on December 15, 1982, Tenneco Chemicals and Tenneco Polymers entered into an agreement whereby Tenneco Chemicals transferred certain assets to Tenneco Polymers. Pursuant to that agreement, Tenneco Chemicals did not transfer any liabilities related to the Garfield Site, and any transfer of liabilities was limited to litigations and claims known or existing at the time of the conveyance—and expressly referenced in exhibits consisting of litigation dockets generated at the time of the transaction. In 1983, Tenneco Chemicals changed its name to Tenneco Resins, Inc. ("Resins"), and filed for dissolution two years later, in 1985. Tenneco Polymers changed its name to EPEC Polymers, Inc. in 1996.

shortly following El Paso Merger Company's acquisition of the energy assets of Tenneco Inc. As the aforementioned facts demonstrate, at no time did Tenneco Polymers merge or consolidate with Resins. In addition, Tenneco Chemicals was a separate corporation from Tenneco Polymers with assets and operations. Although Tenneco Chemicals was a party to various asset transfers over the course of its corporate existence, it retained any and all liabilities associated with the Garfield Site, and those liabilities ceased to exist upon its dissolution in 1985.

ALLOCATOR'S DETERMINATION – EPEC Polymers provides a persuasive argument that has the potential for litigation success, but which cannot be definitively determined based on the available data. Though the Allocator presumes a substantial chance of success should this matter go to litigation, we leave this matter as a topic for settlement discussions between EPEC Polymers and EPA.

Allocation Facility Cmass Calculation

Essex Chemical Corporation

330 & 352 Doremus Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	1.1	100.00%	-	0.00%	-	100.00%	-	1.1	1.018817E-2	0.01
Lead	100.00%	70.09	100.00%	-	0.00%	-	100.00%	-	70.09	1.018817E-2	0.71
Mercury	100.00%	0.43	100.00%	-	0.00%	-	100.00%	-	0.43	1.018817E-2	0
HPAHs	100.00%	0.49	100.00%	-	0.00%	1.02	100.00%	2.4	2.86	1.018817E-2	0.03
LPAHs	100.00%	0.23	100.00%	-	0.00%	0.68	100.00%	1.6	1.81	1.018817E-2	0.02
PCBs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Essex Chemical Corporation

330 & 352 Doremus Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0.01	5.337E-9	3.682E-9
Lead	0.01	3,200,000.00	0.71	2.232E-7	2.232E-9
Mercury	0.95	42,000.00	0	1.043E-7	9.909E-8
HPAHs	0.05	240,000.00	0.03	1.214E-7	6.069E-9
LPAHs	0.01	170,000.00	0.02	1.084E-7	1.084E-9
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

Essex Chemical Corporation

330 & 352 Doremus Avenue

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	3.972E-6	0.01	8.33	3.972E-6	2.740E-6
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	2.429E-4	0.71	776.5	2.429E-4	2.429E-6
Mercury	0.95	42,000.00	4,322.53	41,955.96	9.948E-5	0	4.17	9.948E-5	9.450E-5
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	6.579E-7	0.03	0.13	6.579E-7	3.289E-8
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	6.006E-7	0.02	0.08	6.006E-7	6.006E-9
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Essex Chemical Corporation

330 & 352 Doremus Avenue

Newark

NJ

07105

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	Non Contact Cooling Water, condensate water and storm water runoff discharged to Passaic River
	# hours/per day discharged	
	#days/week discharged	Discharged wastewater to sanitary sewer, direct discharge storm water, non contact cooling water and
	#weeks/yr discharged	boiler blowdown to Passaic River via 3 outlets
2,900,000	calc gal/yr discharged	
	1956 Yr Ops started	
	1989 Yr Ops ceased	
	33 calc #yrs facility operated	
Copper (Cu)		
33	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
33	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
33	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
33	#yrs facility discharged	
1.868	mg/L TOC discharged; PAP-00116140	NJDEPs Discharge Monitoring Reports - used weighted average based on flows from each outlet and TOC concentration
2.5%	% TOC that is considered O&G	
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
0.003	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1.02	calc kg COC discharged	
LPAHs		
33	#yrs facility discharged	
1.868	mg/L TOC discharged; PAP-00116140	NJDEPs Discharge Monitoring Reports - used weighted average based on flows from each outlet and TOC concentration
2.5%	% TOC that is considered O&G	
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0.002	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
0.68	calc kg COC discharged	
PCBs		
22	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
17	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
32	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
33	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
34	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
30	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
20	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
1.02	kg HPAHs	
0.68	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	

-	kg Dioxins/Furans	
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Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	Limited data available
	# days/week discharged	PAP-00115965
	# weeks/yr discharged	PAP-00116075
14,410,000	# gals/yr directly discharged	NJDEPs Permit No. 0002283 Discharge to Passaic River
4.08	ft; 30yr average annual precipitation per Rutgers information	PAP-00116140 includes NJDEPs Discharge Monitoring Reports for 1984, 1985 and 1986
43,560	acres	Only data for TOC (Total Organic Solids) and Volumes through 3 "Outlets"
	ft2 per acre	No Monitoring for other OU2 COCs
		Permit Volumes = Outlet 1, 12.51MGD; Outlet 2, 1.9MGD
1956	Yr Ops started	
1989	Yr Ops ceased	
33	calc #yrs facility operated	
Copper (Cu)		
33	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
33	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
33	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHS		
33	#yrs facility operated	
1.868	mg/L TOC discharged; PAP-00116140	NJDEPs Discharge Monitoring Reports - used weighted average based on flows from each outlet and TOC concentration
2.5%	% TOC that is considered O&G	
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
0.003	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
5.044	calc kg COC discharged	
LPAHs		
33	#yrs facility operated	
1.868	mg/L TOC discharged; PAP-00116140	NJDEPs Discharge Monitoring Reports - used weighted average based on flows from each outlet and TOC concentration
2.5%	% TOC that is considered O&G	
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0.002	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
3.363	calc kg COC discharged	
PCBs		
22	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
17	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
32	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
33	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
34	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
30	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
20	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
2.369	kg HPAHs	
1.580	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	

-	kg Dioxins/Furans	
		[REDACTED]

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	15 ACRES - TOTAL SITE AREA (acres)		
	2.4 ACRES - AFFECTED AREA	Based on the figure in the FDR (Page 2), it appears that the paved, manufacturing operations used 80% of the site, so affected area is estimated as 20% of the site	
	4,046.86 METERS ² /ACRE		
	9,712 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	1 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO DITCHES AND PASSAIC	
	1956 Year site operations began	330 Doremus was operating from 1956-1989 and 352 Doremus was operating from	
	1989 Year site processing and storage operations ceased	1965 to 1989 (FDR Page 1). To be conservative, used the earlier date as the beginning of operations.	
	33 NUMBER YEARS DISCHARGE		
	32 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	2,003 KG/M ³ SOIL DENSITY	Most soils at the Newark site consisted of fine grained, clayey silt with organic matter (PAP-00116565). Used structx.com/Soil_Properties_002.html for density. Used the average of silt and clay min (1506 kg/m ³) and max (2499 kg/m ³).	
	64,182 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
Copper (Cu)		Site is located on regional historic fill (FDR page 5) Detected at soil sample location Q-3 (3.5-4 ft bgs) at 110,000 ug/kg (110 ppm); collected 11/21/1990 at the Truck Maintenance Building and Quantum Chemical Areas (PAP-00116914). Selected maximum from shallowest depth.	
	33 YEARS DISCHARGED		
	0 MG/KG (MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)	Max concentration 110 mg/kg. Set to 0 since less than HF.	
	0 KILOGRAMS DISCHARGED		
Lead (Pb)		Detected at soil sample location Q-3 (3.5-4 ft bgs) at 7,000 mg/kg; collected 11/21/1990 at the Quantum Chemical Area (PAP-00116914; PAP-00117022). Selected maximum from shallowest depth.	
	33 YEARS DISCHARGED		
	0 MG/KG (MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)	7,000 mg/kg max concentration. Set to 0 since less than HF.	
	0 KILOGRAMS DISCHARGED		
Mercury (Hg)	33 YEARS DISCHARGED		
		Detected at soil sample location TMB-2 (4-4.5 ft bgs) at 5.8 mg/kg; collected 11/19/1990 at the Truck Maintenance Building (PAP-00117155). Detected 680 J ug/kg at Q-1 (3.5-4 ft) on 11/21/1990 (PAP-00117156). Selected maximum from shallowest depth.	
	5.8 MG/KG (MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)		Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample .	
	33 YEARS DISCHARGED		
	6.5 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		
PAHs (others detected)	33 YEARS DISCHARGED		
	0 MG/KG (TOTAL PAH MAX CONCENTRATION)		
	PAP-00116913		
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Selected maximum from shallowest depth. PAP-00116959			
Benzo(a)pyrene	4.500	1.0	4.5000
Benzo(a)anthracene	4.500	0.1	0.4500
Benzo(b)fluoranthene	4.600	0.1	0.4600
Benzo(k)fluoranthene	4.000	0.01	0.0400
Chrysene	5.100	0.001	0.0051
Dibenz(a,h)anthracene	0.830	1.0	0.8300
Indeno(1,2,3-cd)pyrene	2.500	0.1	0.2500

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **6.5**

PCBs	NOT DETECTED (FDR)
	YEARS DISCHARGED
	MG/KG (MAX OF REPORTED CONCENTRATIONS)
	0.000001 kg per mg (Merck Index)
	0 KILOGRAMS DISCHARGED
DDx	NOT DETECTED (FDR)
	0 YEARS DISCHARGED within DDx Timeline
	MG/KG (MAX CONCENTRATION)
	3.785 L per gallon (Merck Index)
	0.000001 kg per mg (Merck Index)
	0 KILOGRAMS DISCHARGED
Dieldrin	NOT DETECTED (FDR)
	0 YEARS DISCHARGED within Dieldrin Timeline
	MG/KG (MAX CONCENTRATION)
	3.785 L per gallon (Merck Index)
	0.000001 kg per mg (Merck Index)
	0 KILOGRAMS DISCHARGED
Dioxins/Furans	NONE FOUND IN AVAILABLE DOCUMENTATION
	NOT DETECTED (FDR)
	0 YEARS DISCHARGED
	0 MG/KG (MAX CONCENTRATION)
	0.000001 kg per mg (Merck Index)
	0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:
0.00 kg Copper
0.00 kg Lead
0.37 kg Mercury
0.42 kg PAHs (Benzo(a)pyrene Equivalent)
0.02 kg PAHs (Other)
0.00 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

0.81 MASS (KG) DISCHARGED FROM SURFACE SOIL

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	15 ACRES - TOTAL SITE AREA (acres)		
	2.4 ACRES - AFFECTED AREA	Based on the figure in the FDR (Page 2), it appears that the paved, manufacturing operations used 80% of the site, so affected area is estimated as 20% of the site	
	4,046.86 METERS ² /ACRE		
	9,712 METERS² (AFFECTED AREA)		
	0.0010 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	5 METERS³/YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED	
1974 Year of spill		330 Doremus was operating from 1956-1989 and 352 Doremus was operating from 1965 to 1989 (FDR Page 1). For this pathway, a release occurred in 1972, where nitric acid overflowed from a 20,000 gallon tank car. The ground was covered with soda ash and water and the fire department washed the residue into the Passaic (FDR Page 9).	
1975 Year of spill		Will conservatively assume 1 year. The 20,000 gallon release likely carved a channel to the Passaic.	
	1 NUMBER YEARS DISCHARGE		
	5 METERS³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	2,003 KG/M³ SOIL DENSITY	Most soils at the Newark site consisted of fine grained, clayey silt with organic matter (PAP-00116565). Used structx.com/Soil_Properties_002.html for density. Used the average of silt and clay min (1506 kg/m ³) and max (2499 kg/m ³).	
	10,013 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
Copper (Cu)	1 YEARS DISCHARGED	Site is located on regional historic fill (FDR page 5). Detected at soil sample location Q-3 (3.5-4 ft bgs) at 110,000 ug/kg (110 ppm); collected 11/21/1990 at the Truck Maintenance Building and Quantum Chemical Areas (PAP-00116914). Selected maximum from shallowest depth.	
	110 MG/KG (MAX CONCENTRATION)	Max concentration 110 mg/kg. HF washed into River by 20,000 gallon acid release and by firehose, which washed all impacted/stained soil into the River	
	0.000001 kg per mg (Merck Index)		
	1 KILOGRAMS DISCHARGED		
Lead (Pb)	1 YEARS DISCHARGED	Detected at soil sample location Q-3 (3.5-4 ft bgs) at 7,000 mg/kg; collected 11/21/1990 at the Quantum Chemical Area (PAP-00116914; PAP-00117022). 7,000 mg/kg max concentration. HF washed into River by 20,000 gallon acid release and by firehose, which washed all impacted/stained soil into the River.	
	7000 MG/KG (MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	70 KILOGRAMS DISCHARGED		
Mercury (Hg)	1 YEARS DISCHARGED	Detected at soil sample location TMB-2 (4-4.5 ft bgs) at 5.8 mg/kg; collected 11/19/1990 at the Truck Maintenance Building (PAP-00117155). Detected 680 J ug/kg at Q-1 (3.5-4 ft) on 11/21/1990 (PAP-00117156). Selected maximum from shallowest depth.	
	5.8 MG/KG (MAX CONCENTRATION)		
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)

1 YEARS DISCHARGED
6.5 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)
0.000001 kg per mg (Merck Index)
0.07 KILOGRAMS DISCHARGED

PAHs (others detected)

1 YEARS DISCHARGED
21 MG/KG (TOTAL PAH MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0.21 KILOGRAMS DISCHARGED

PCBs

YEARS DISCHARGED
MG/KG (MAX OF REPORTED CONCENTRATIONS)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

DDx

0 YEARS DISCHARGED within DDx Timeline
MG/KG (MAX CONCENTRATION)
3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dieldrin

0 YEARS DISCHARGED within Dieldrin Timeline
MG/KG (MAX CONCENTRATION)
3.785 L per gallon (Merck Index)

0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dioxins/Furans

NONE FOUND IN AVAILABLE DOCUMENTATION

0 YEARS DISCHARGED
0 MG/KG (MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0 calc kg COC discharged

SUMMARY CMASS ESTIMATES:

1.10 kg Copper
70.09 kg Lead
0.06 kg Mercury
0.07 kg PAHs (Benzo(a)pyrene Equivalent)
0.21 kg PAHs (Other)
0.00 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

71.52 MASS (KG) DISCHARGED

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
<https://floridadept.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample>

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Selected maximum from shallowest depth. PAP-00116959			
Benzo(a)pyrene	4.500	1.0	4.5000
Benzo(a)anthracene	4.500	0.1	0.4500
Benzo(b)fluoranthene	4.600	0.1	0.4600
Benzo(k)fluoranthene	4.000	0.01	0.0400
Chrysene	5.100	0.001	0.0051
Dibenz(a,h)anthracene	0.830	1.0	0.8300
Indeno(1,2,3-cd)pyrene	2.500	0.1	0.2500

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **6.5**

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Essex Chemical Corporation

330 & 352 Doremus Avenue

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
8.412E-8	10.0%	Periodic Noncompliance	Criminal charges were filed against Essex in United States District Court, District of New Jersey on July 11, 1974, arising from a 1972 release to the Passaic River from Essex (PAS-00062740). As described by a PVSC inspector, a 20,000 gallon tank car with oleum and nitric acid overflowed through a vent pipe due to internal pressure. The ground was covered with soda ash and water to neutralize the overflow, and the fire department then washed the residue into the Passaic River (PAS-00062745). New Jersey State Department of Health issued "pollution abatement orders" to Essex in 1969 (PAP-00140967). No further information was available.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	7.571E-8
						AP_ABS 7.571E-8

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Essex Chemical Corporation

330 & 352 Doremus Avenue

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
7.478E-5	10.0%	Periodic Noncompliance	Criminal charges were filed against Essex in United States District Court, District of New Jersey on July 11, 1974, arising from a 1972 release to the Passaic River from Essex (PAS-00062740). As described by a PVSC inspector, a 20,000 gallon tank car with oleum and nitric acid overflowed through a vent pipe due to internal pressure. The ground was covered with soda ash and water to neutralize the overflow, and the fire department then washed the residue into the Passaic River (PAS-00062745). New Jersey State Department of Health issued "pollution abatement orders" to Essex in 1969 (PAP-00140967). No further information was available.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	6.731E-5
						AP_ABS 6.731E-5

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

ESSEX CHEMICAL

Essex argues that it received a partial release of liability from Occidental Chemical (see attached), in the Maxus bankruptcy, along with 41 other parties. The releasing parties explained the rationale for providing this release in that proceeding as follows: "The debtors sought to eliminate those parties that (a) appeared to either be de minimis contributors or (b) had previously contributed to the investigation and the remediation costs in amounts roughly proportionate to their share of liability." Maxus bankruptcy docket no. 1232 at 24, filed April 19, 2017.

ALLOCATOR'S DETERMINATION – Though I have not had the opportunity to review the underlying settlement document and other potentially relevant facts associated with the release provided by OCC, assuming its validity, it is apparent that there is a high likelihood of success in any action against OCC to enforce the release. Given OCC's lack of participation in the allocations process, however, the Allocator does not believe that it is appropriate to account for the amount of any such release in the assignment of allocated shares. Rather, the Allocator notes the existence of the release and recommends that it be taken into account in determining the appropriate amount of any future settlement with EPA.

Allocation Facility Cmass Calculation

Everett Smith Group

20 Bruen Street

Newark

NJ

07105

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COCA%	COC Historic CMass
Copper	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
Lead	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
Mercury	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
LPAHs	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
PCBs	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	10.03%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Everett Smith Group

20 Bruen Street

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0	0	0
Lead	0.01	3,200,000.00	0	0	0
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0	0	0
LPAHs	0.01	170,000.00	0	0	0
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

Everett Smith Group

20 Bruen Street

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	0	0	0	0	0
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	0	0	0	0	0
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	0	0	0	0	0
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	0	0	0	0	0
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Everett Smith Group

20 Bruen Street

Newark

NJ

07105

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	City Dock	CSO	0.11%	61.80%	
2	City Dock	Bypass	9.96%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	Leather Tannery
	# hours/ per day discharged	No information on flows or COC discharges
5	#days/week discharged	Facility would have discharged to the PVSC by the City Dock CSO
52	#weeks/yr discharged	S. Lange Expert Report, FDR
88,441,160	calc gal/yr discharge	
1937	Yr Ops started	
1939	Yr Ops ceased	
2.5	calc #yrs facility operated	PAP-00000053, PAS-00032775
Copper (Cu)		
2.5	#yrs facility discharged	S. Lange Expert Report, FDR
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
2.5	#yrs facility discharged	S. Lange Expert Report, FDR
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
2.5	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
2.5	#yrs facility discharged	
-	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
2.5	#yrs facility discharged	
-	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
3.0	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
0	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
-10	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
3	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
-6	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
-5	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
-10	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	

-	kg Dioxins/Furans	
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Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Everett Smith Group

20 Bruen Street

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
0	0.0%	Historically Compliant or No Evidence	No information on violations or sloppy practices was identified in the available file material.	0.0%	0% Cooperation with conduct of allocation and requests for related information	0
						AP_ABS 0

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Everett Smith Group

20 Bruen Street

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
0	0.0%	Historically Compliant or No Evidence	No information on violations or sloppy practices was identified in the available file material.	0.0%	0% Cooperation with conduct of allocation and requests for related information	0
						AP_ABS 0

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

EVERETT SMITH GROUP

Everett Smith Group states that Blanchard Bro. & Lane, Inc. was incorporated on June 29, 1937 and operated at 20 Bruen Street until sometime in 1939. (PAP-00000007; PAS-00032775). The property was sold in December 1941. (PAP-00000058). Eighteen years later, in 1959, 100% of Blanchard's stock was purchased by Eagle Ottawa Leather Company ("Eagle Ottawa"). (PAP-00432364 thru PAP-00432365). Eagle Ottawa maintained Blanchard as a wholly owned subsidiary until February 24, 1965 when it caused Blanchard to be dissolved. (PAP-00432366 thru PAP-00432367; PAP-00432369). In anticipation of such dissolution, Eagle Ottawa assumed on August 31, 1964 all "fixed or contingent" debts, obligations and liabilities of Blanchard existing as of that date. (PAP-00432368). There was no merger of the Blanchard and Eagle Ottawa Leather Company corporate entities. (PAP-00432364 thru PAP-00432369). There was no assumption of Blanchard's debts, obligations, or liabilities that did not exist on August 31, 1964. Eagle Ottawa Leather Company later merged with Albert Trostel & Sons Company. (PAS-0003297 thru PAS-0003298). ESG purchased the stock of Albert Trostel & Sons Company.

Eagle Ottawa's assumption of Blanchard's "contingent" debts, obligations, and liabilities in 1964 did not include CERCLA liabilities that might otherwise have been created in 1981 by CERCLA, a full 17 years later. The Court of Appeals for the Third Circuit interpreted the meaning of "contingent" liabilities in an analogous case addressing whether CERCLA liability had been discharged in a bankruptcy proceeding. *Matter of Reading Co.*, 115 F.3d 1111, 1122 (3d Cir. 1997) (abrogated on other grounds by *E.I. DuPont De Nemours & Co. v. United States*, 460 F.3d 515, 518 (3d Cir. 2006)). In that case, Reading Co. emerged from a bankruptcy proceeding in 1981 with a "consummation order" granting it protection from all pre-consummation debts and liabilities. *Matter of Reading Co.*, 115 F.3d at 1114. Sixteen years later, Consolidated Rail Corporation ("Conrail") commenced a contribution action seeking recovery of cleanup costs from Reading Co. for pre-consummation releases of hazardous substances. *Id.* Reading Co. argued that the potential CERCLA liability was a pre-consummation claim for which Reading Co. was protected by the bankruptcy court's consummation order. *Id.* at 1121. Under the bankruptcy law, claims included "contingent" debts, liabilities and obligations. *Id.* at 1121-1123. The Third Circuit held that the potential for CERCLA liability had not matured to the level of a claim, or even a contingent claim, before CERCLA was enacted in 1980. *Id.* In an earlier case, the Third Circuit had succinctly noted:

[I]t was not until the passage of CERCLA that a legal relationship was created between the petitioners and PCC relevant to the petitioners' potential causes of action such that an interest could flow. Because this legal relationship did not evolve until after the Consummation Date, the petitioners did not have contingent claims against PCTC. *In re Penn Central Trans. Co.*, 944 F.2d 164, 167-168 (3d Cir. 1991). Thus, there was no actual or contingent CERCLA debt, obligation, or liability to be assumed by Eagle Ottawa in 1964 when the company was dissolved.

ALLOCATOR'S DETERMINATION – Though the Everett Smith Group makes an argument regarding its lack of successor liability, the Allocator does not believe that Everett has a substantial likelihood of success at litigation based on the abrogated bankruptcy case cited as the

Allocation Facility Cmass Calculation

Foundry Street Corporation (Foundry Street Complex)

185 Foundry Street

Newark

NJ

07105

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COCA%	COC Historic Cmass
Copper	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Lead	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Mercury	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
LPAHs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
PCBs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Foundry Street Corporation (Foundry Street Complex)

185 Foundry Street

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0	0	0
Lead	0.01	3,200,000.00	0	0	0
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0	0	0
LPAHs	0.01	170,000.00	0	0	0
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

Foundry Street Corporation (Foundry Street Complex)

185 Foundry Street

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	0	0	0	0	0
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	0	0	0	0	0
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	0	0	0	0	0
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	0	0	0	0	0
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Foundry Street Corporation (Foundry Street Complex)

185 Foundry Street

Newark

NJ

07105

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Foundry Street Corporation (Foundry Street Complex)

185 Foundry Street

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
5.052E-7	0.0%	Historically Compliant or No Evidence	No information on violations or sloppy practices was identified in the available file material.	20.0%	20% Failed to participate in conduct of allocation as offered by EPA	6.063E-7
						AP_ABS 6.063E-7

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Foundry Street Corporation (Foundry Street Complex)

185 Foundry Street

Newark

NJ

07105

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
6.490E-5	0.0%	Historically Compliant or No Evidence	No information on violations or sloppy practices was identified in the available file material.	20.0%	20% Failed to participate in conduct of allocation as offered by EPA	7.788E-5
						AP_ABS 7.788E-5

Allocation Facility Cmass Calculation

Franklin Burlington Plastics Inc.

113 Passaic Avenue

Kearny

NJ

07032

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COCA%	COC Historic Cmass
Copper	100.00%	141.4	100.00%	-	0.00%	-	100.00%	16.6	157.98	1.018817E-2	1.61
Lead	100.00%	564.71	100.00%	-	0.00%	-	100.00%	2.8	567.53	1.018817E-2	5.78
Mercury	100.00%	1.97	100.00%	-	0.00%	-	100.00%	-	1.97	1.018817E-2	0.02
HPAHs	100.00%	59.79	100.00%	-	0.00%	-	100.00%	221.4	281.18	1.018817E-2	2.86
LPAHs	100.00%	494.35	100.00%	-	0.00%	-	100.00%	147.6	641.94	1.018817E-2	6.54
PCBs	100.00%	0.46	100.00%	-	0.00%	-	100.00%	-	0.46	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Franklin Burlington Plastics Inc.

113 Passaic Avenue

Kearny

NJ

07032

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	1.61	7.664E-7	5.288E-7
Lead	0.01	3,200,000.00	5.78	1.807E-6	1.807E-8
Mercury	0.95	42,000.00	0.02	4.779E-7	4.540E-7
HPAHs	0.05	240,000.00	2.86	1.194E-5	5.968E-7
LPAHs	0.01	170,000.00	6.54	3.847E-5	3.847E-7
PCBs	12.87	26,000.00	0	1.803E-7	2.320E-6
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

Franklin Burlington Plastics Inc.

113 Passaic Avenue

Kearny

NJ

07032

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	5.704E-4	1.61	1,196.23	5.704E-4	3.936E-4
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	1.967E-3	5.78	6,287.47	1.967E-3	1.967E-5
Mercury	0.95	42,000.00	4,322.53	41,955.96	4.558E-4	0.02	19.12	4.558E-4	4.330E-4
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	6.469E-5	2.86	12.66	6.469E-5	3.235E-6
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	2.131E-4	6.54	29.68	2.131E-4	2.131E-6
PCBs	12.87	26,000.00	20,066.54	25,795.56	2.292E-5	0	0.59	2.292E-5	2.950E-4
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Franklin Burlington Plastics Inc.

113 Passaic Avenue

Kearny

NJ

07032

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
23,500	gal discharged per day/week/month	PARS RIR, 2016 - plant was connect to sewer system since 1946
5	# hours/per day discharged	Process Flow diagram: 2500 gpd Sanitary and 21000gpd boilers to PVSC
52	#days/week discharged	
-	calc gal/yr discharge	
1976	Yr Ops started	
2010	Yr Ops ceased	
34	calc #yrs facility operated	
Copper (Cu)		
34	#yrs facility discharged	Sampling data 1990, 2008, 2010 and Permit for O&G
0.0365	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
34	#yrs facility discharged	Sampling data 1990, 2008, 2010 and Permit for O&G
0.0304	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
34	#yrs facility discharged	
-	calc mg/L COC discharged	NON DETECT
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
34	#yrs facility discharged	Permit Limit
10.00	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
0.60	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
34	#yrs facility discharged	Permit Limit
10.00	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0.40	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
2	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-3	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
12	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
34	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
35	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
10	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
0	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	1976-2004 Direct discharge to Passaic River via Permit (NJPDES)
5	# days/week discharged	1200 gpd (PAP-00057219)
50	# weeks/yr discharged	PAP-CONF-00010094
4,289,500	# gals/yr directly discharged	PAP-00057219
4.08	ft; 30yr average annual precipitation per Rutgers information	Credit for NJPDES Permit oil and grease discharge limit of 10 mg/l
	acres	
43,560	ft ² per acre	
	acres	
50%	Percent Precip to River	
1976	Yr Ops started	
2004	Yr Ops ceased	
28	calc #yrs facility operated	
Copper (Cu)		
28	#yrs facility discharged	
0.0365	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
16.58	calc kg COC discharged	
Lead (Pb)		
28	#yrs facility discharged	
0.0062	calc mg/L COC discharged	PAP-00337332
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
2.82	calc kg COC discharged	
Mercury (Hg)		
28	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
28	#yrs facility discharged	
10.00	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
0.60	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
272.76	calc kg COC discharged	
LPAHs		
28	#yrs facility discharged	
10.00	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0.40	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
181.84	calc kg COC discharged	
PCBs		
2	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-3	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
12	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
28	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
29	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
10	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
0	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
16.58	kg Copper	
2.82	kg Lead	
-	kg Mercury	
221.39	kg HPAHs	
147.59	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

DISCHARGE CALCULATIONS	DIRECT DISCHARGE INFORMATION	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
4.08 FEET/YEAR AVERAGE PRECIPITATION		Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
8.44 ACRES - TOTAL SITE AREA (acres)		FDR, page 1; confirmed with Google Earth	
6 ACRES - AFFECTED AREA		A 55,000-square foot production plant and 840-square foot boiler house were located at the Site. (PAP-00056121) Covering approximately 1.2 acres of the 8.44 acre site.	
4,046.86 METERS ² /ACRE	CONVERSION TO METERS		
24,281 METERS ² (AFFECTED AREA)			
0.0001 METERS/YEAR (ERODED SOIL THICKNESS)		For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
2 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED to Passaic.		
1976 Year site operations began		Franklin Burlington Plastics or its predecessor manufactured plastics at the Site from approximately 1976 to 2010 (PAP-00056120).	
2017 Year site ownership ceased		On May 22, 2017, Urban Renewal, LLC acquired the site from Franklin-Burlington Plastics (FDR page 4; PAP-00338807).	Site manufacturing operations ceased in 2010 and all buildings were razed in April 2014 (PAP-00056121).
41 NUMBER YEARS DISCHARGE			
100 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)			
2,251 KG/M ³ SOIL DENSITY		The fill was comprised of silty sand, coarse sand, cinders, gravel, brick fragments, rod, wood pieces, glass, ceramics and scrap metal. (PAP-00056120). Bulk density range 2002 KG/M ³ to 2499 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
224,093 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)			
Copper (Cu)			
41 YEARS DISCHARGED			
631 MG/KG (MAX CONCENTRATION)		Max concentration at maximum shallow sample, RL-3 (1.6-2.1 ft bgs) (PAP-00056226).	
0.000001 kg per mg (Merck Index)			
141 KILOGRAMS DISCHARGED			
Lead (Pb)		Lead compounds were used as a PVC stabilizer in electrical insulators. (PAP-0033886-87).	
41 YEARS DISCHARGED			
2,520 MG/KG MAX CONCENTRATION		Max concentration at the maximum shallow sample, NJEP-S6 (0.0-0.5 ft bgs) (PAP-00337333)	
0.000001 kg per mg (Merck Index)			
565 KILOGRAMS DISCHARGED			

DISCHARGE CALCULATIONS	DIRECT DISCHARGE INFORMATION	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
Mercury (Hg)	41 YEARS DISCHARGED 8.8 MG/KG (MAX CONCENTRATION)	Max concentration of mercury from Table 8; soil from AOC 12 - Fill Area, sample HF-7 collected at 5-5.5 ft bgs (PAP-00056224). Due to density of mercury, it is not expected to remain on the surface.	
	0.000001 kg per mg (Merck Index) 2 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	41 YEARS DISCHARGED 266.8 MG/KG (TOTAL PAH MAX CONCENTRATION)	Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample .	
PAHs (others detected)	0.000001 kg per mg (Merck Index) 60 KILOGRAMS DISCHARGED	LMW PAH concentrations from soil sample SB13/A collected at 0.5-1 ft January 2002 (PAP-00056325-6).	
PCBs	41 YEARS DISCHARGED 2.05 MG/KG (MAX OF REPORTED CONCENTRATIONS)	Max concentration based on maximum shallow sample from this site, TS-24 (0.0-0.5 ft bgs) (PAP-00056220)	
DDx	0.000001 kg per mg (Merck Index) 0 KILOGRAMS DISCHARGED	41 YEARS DISCHARGED within DDx Timeline MG/KG (MAX CONCENTRATION)	NONE REPORTED
Dieldrin	0.000001 kg per mg (Merck Index) 0 KILOGRAMS DISCHARGED	41 YEARS DISCHARGED MG/KG (MAX CONCENTRATION)	NONE REPORTED
Dioxins/Furans	0.000001 kg per mg (Merck Index) 0 KILOGRAMS DISCHARGED	41 YEARS DISCHARGED MG/KG (MAX CONCENTRATION)	
SUMMARY CMASS ESTIMATES:			
141.40 kg Copper 564.71 kg Lead 1.97 kg Mercury 59.79 kg PAHs (Benzo(a)pyrene Equivalent) 494.35 kg PAHs (Other) 0.46 kg PCBs 0.00 kg DDx 0.00 kg Dieldrin 0.00 kg Dioxins/Furans			
1,262.69 TOTAL MASS (KG) DISCHARGED FROM SURFACE SOIL			

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Franklin Burlington Plastics Inc.

113 Passaic Avenue	Kearny	NJ	07032
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Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
4.302E-6	10.0%	Periodic Noncompliance	According to the 1990 EPA SI, at an unknown date Franklin Plastics received a Notice of Violation for oily spills along the eastern wall of the Production Plant (PAP-00337303). In 1984, there were numerous violations that included spillage, discolored soils, oil saturated soils, improperly labeled drums, unmarked drums, disposal of drums, and other storage of material concerns (PAP-00337237). NJDEP Division of Water Resources, inspected the facility in July 1985 and gave it an "unacceptable" rating due to permit limit exceedances of temperature, chromium, and zinc concentrations (PAP-00057085-89). A 1980 EPA Potential Hazardous Waste Site Identification and Preliminary Assessment form identified an open dump, landfill, drums, aboveground tanks, a railroad, and other hazardous major site activities. Overturned drums potentially contaminating the soil were noted onsite, as well as "many" 55-gallon drums that were leaking and overflowing. An August 1, 1984 Investigative Report for Franklin Plastics Corporation noted an oil-like substance that heavily contaminated the southwestern corner inside of the Production Plant. Two spills being cleaned by the workers were noted on the ground during the inspection in an area where a liquid plasticizer was discharged from tank trailers into pipes for storage (PAP-00338659). During sampling "spill and vegetative stress area near the air pollution control units" as noted and another sample was collected where "the soils were covered with a silvery material"	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	3.872E-6

AP_ABS

3.872E-6

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Franklin Burlington Plastics Inc.

113 Passaic Avenue Kearny NJ 07032

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
1.147E-3	10.0%	Periodic Noncompliance	According to the 1990 EPA SI, at an unknown date Franklin Plastics received a Notice of Violation for oily spills along the eastern wall of the Production Plant (PAP-00337303). In 1984, there were numerous violations that included spillage, discolored soils, oil saturated soils, improperly labeled drums, unmarked drums, disposal of drums, and other storage of material concerns (PAP-00337237). NJDEP Division of Water Resources, inspected the facility in July 1985 and gave it an "unacceptable" rating due to permit limit exceedances of temperature, chromium, and zinc concentrations (PAP-00057085-89). A 1980 EPA Potential Hazardous Waste Site Identification and Preliminary Assessment form identified an open dump, landfill, drums, aboveground tanks, a railroad, and other hazardous major site activities. Overturned drums potentially contaminating the soil were noted onsite, as well as "many" 55-gallon drums that were leaking and overflowing. An August 1, 1984 Investigative Report for Franklin Plastics Corporation noted an oil-like substance that heavily contaminated the southwestern corner inside of the Production Plant. Two spills being cleaned by the workers were noted on the ground during the inspection in an area where a liquid plasticizer was discharged from tank trailers into pipes for storage (PAP-00338659). During sampling "spill and vegetative stress area near the air pollution control units" as noted and another sample was collected where "the soils were covered with a silvery material"	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	1.032E-3

AP_ABS

1.032E-3

Allocation Facility Cmass Calculation

Garfield Molding Company, Inc.

10 Midland Avenue

Wallington NJ

07057

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	456.73	100.00%	-	2.32%	-	100.00%	80.3	537.06	1.018817E-2	5.47
Lead	100.00%	130.39	100.00%	-	2.32%	-	100.00%	67.1	197.46	1.018817E-2	2.01
Mercury	100.00%	0.44	100.00%	-	2.32%	-	100.00%	-	0.44	1.018817E-2	0
HPAHs	100.00%	0.95	100.00%	-	2.32%	-	100.00%	2,418.6	2,419.56	1.018817E-2	24.65
LPAHs	100.00%	5.58	100.00%	-	2.32%	-	100.00%	1,612.4	1,617.99	1.018817E-2	16.48
PCBs	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Garfield Molding Company, Inc.

10 Midland Avenue

Wallington NJ

07057

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	5.47	2.606E-6	1.798E-6
Lead	0.01	3,200,000.00	2.01	6.287E-7	6.287E-9
Mercury	0.95	42,000.00	0	1.067E-7	1.014E-7
HPAHs	0.05	240,000.00	24.65	1.027E-4	5.136E-6
LPAHs	0.01	170,000.00	16.48	9.697E-5	9.697E-7
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calculation

Garfield Molding Company, Inc.

10 Midland Avenue

Wallington

NJ

07057

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	1.939E-3	5.47	4,066.7	1.939E-3	1.338E-3
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	6.842E-4	2.01	2,187.54	6.842E-4	6.842E-6
Mercury	0.95	42,000.00	4,322.53	41,955.96	1.018E-4	0	4.27	1.018E-4	9.670E-5
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	5.567E-4	24.65	108.95	5.567E-4	2.783E-5
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	5.370E-4	16.48	74.81	5.370E-4	5.370E-6
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Garfield Molding Company, Inc.

10 Midland Avenue

Wallington

NJ

07057

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Yantacaw	Bypass	2.32%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	No information on Discharges or Flows
	# hours/per day discharged	Connection to PVSC in 1917, but flows to Saddle River
	#days/week discharged	
	#weeks/yr discharged	
-	calc gal/yr discharge	
	Yr Ops started	
	Yr Ops ceased	
1	calc #yrs facility operated	
Copper (Cu)		
1	#yrs facility discharged	
0.0365	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
1	#yrs facility discharged	
0.0304	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
1	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
1	#yrs facility discharged	
-	calc mg/L O&G	
10%	% O&G that is considered PAHs	
50%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
1	#yrs facility discharged	
-	calc mg/L O&G	
10%	% COC in O&G considered as PAHs	
50%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
-1928	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-1939	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
-1949	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
1	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
-1945	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
-1944	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
-1949	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	Direct Discharge to Saddle River, through PVSC sewer system?
	# days/week discharged	NJPDES Permit NJ0027146 (PAS-00102810)
	# weeks/yr discharged	Based on Franklin Burlington
6,000,000	# gals/yr directly discharged	Credit for NJPDES Permit for TPH discharge limit of 15 mg/l
4.08	ft; 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft2 per acre	
1917	Yr Ops started	
2014	Yr Ops ceased	
97	calc #yrs facility operated	
Copper (Cu)		
97	#yrs facility discharged	From Franklin Burlington
0.0365	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
80.33	calc kg COC discharged	
Lead (Pb)		
97	#yrs facility discharged	From Franklin Burlington
0.0304	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
67.07	calc kg COC discharged	
Mercury (Hg)		
97	#yrs facility discharged	From Franklin Burlington
-	calc mg/L COC discharged	Non Detect
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
97	#yrs facility discharged	From Franklin Burlington
1.5000	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
3,304.3050	calc kg COC discharged	
LPAHs		
97	#yrs facility discharged	From Franklin Burlington
1.0000	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
2,202.8700	calc kg COC discharged	
PCBs		
49	#yrs facility discharged within PCBs Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
33	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
38	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
97	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
69	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
41	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
26	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
80.33	kg Copper	
67.07	kg Lead	
-	kg Mercury	
2,418.62	kg HPAHs	
1,612.41	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	3.43 ACRES - TOTAL SITE AREA (acres)	FDR and PAS-00102867, PAS-00123366	
	2.0 ACRES - AFFECTED AREA	Estimation based on Google Earth	
	4,046.86 METERS ² /ACRE		
	8,094 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	1 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED	
	1917 Year site operations began	PAS-00123364	
	2014 Year site processing and storage operations ceased	PAS-00123364	
	97 NUMBER YEARS DISCHARGE		
	79 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	2,251 KG/M ³ SOIL DENSITY	Fill underlain by fine to coarse well sorted sands/coarse gravelly sands/fine sands and silt (PAS-00102913). Bulk density range 2002 KG/M ³ to 2499 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
	176,685 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
		Site is partially located on historic fill (FDR, pg. 9)	
Copper (Cu)	97 YEARS DISCHARGED		
	2585 MG/KG (MAX CONCENTRATION)	Maximum concentration in soil at VE-1 (24-30") (PAS-00102887 and PAS-00102889)	
	0.000001 kg per mg (Merck Index)		
	457 KILOGRAMS DISCHARGED		
Lead (Pb)	97 YEARS DISCHARGED		
	738 MG/KG (AVERAGE CONCENTRATION)	Max concentration in soil at VE-3 (24-30") (PAS-00102889)	
	0.000001 kg per mg (Merck Index)		
	130 KILOGRAMS DISCHARGED		
Mercury (Hg)	97 YEARS DISCHARGED		
	2.5 MG/KG (MAX CONCENTRATION)	Max concentration in soil at VE-3 (24-30") (PAS-00102889)	
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	97 YEARS DISCHARGED	Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample .	
	4.6 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)	Sum of Benzo(a)pyrene Equivalent conversion concentrations using maximum concentrations (FDR Tables, page 10; PAS-00102888-892)	
	0.000001 kg per mg (Merck Index)		
	1 KILOGRAMS DISCHARGED		
PAHs (others detected)	97 YEARS DISCHARGED		
	30.30 MG/KG (TOTAL PAH MAX CONCENTRATION)	Other PAHs = Benzo (a) pyrene, Phenanthrene, Flouranthene, Pyrene (FDR Tables; PAS-0010288-892)	
	0.000001 kg per mg (Merck Index)		
	5 KILOGRAMS DISCHARGED		
PCBs	84 YEARS DISCHARGED	PCB sample result at T-W-5 (PAS-00102882); years reflect a 1930 start date for PCBs.	
	0 MG/KG (MAX OF REPORTED CONCENTRATIONS)	PCB concentration relected as 0 mg/kg because the only detection was from a sample taken at 9 ft bgs below a UST, which is too far below ground surface for this calculation. (FDR p 15, PAS-00102882)	
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	3.800	1.0	3.8000
Benzo(a)anthracene	2.800	0.1	0.2800
Benzo(b)fluoranthene	5.400	0.1	0.5400
Benzo(k)fluoranthene	2.100	0.01	0.0210
Chrysene	3.400	0.001	0.0034
Dibenz(a,h)anthracene	0.000	1.0	0.0000
Indeno(1,2,3-cd)pyrene	0.000	0.1	0.0000

DE Residential = 0.1 mg/kg, DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 4.6

DDx	YEARS DISCHARGED within DDx Timeline	None
	MG/KG (MAX CONCENTRATION)	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	0 KILOGRAMS DISCHARGED	
Dieldrin	0 YEARS DISCHARGED within Dieldrin Timeline	None
	MG/KG (MAX CONCENTRATION)	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	0 KILOGRAMS DISCHARGED	
Dioxins/Furans	YEARS DISCHARGED	None
	MG/KG (MAX CONCENTRATION)	
	0.000001 kg per mg (Merck Index)	
	0 calc kg COC discharged	
SUMMARY CMASS ESTIMATES:		
456.73 kg Copper		
130.39 kg Lead		
0.44 kg Mercury		
0.82 kg PAHs (Benz(a)pyrene Equivalent)		
5.35 kg PAHs (Other)		
0.00 kg PCBs		
0.00 kg DDx		
0.00 kg Dieldrin		
0.00 kg Dioxins/Furans		
593.74 MASS (KG) DISCHARGED FROM SURFACE SOIL		

Discharge Calcs

Direct Discharge Information
4.08 FEET/YEAR AVERAGE PRECIPITATION per Rutgers Univ.

NOTES, COMMENTS, REFERENCES
Long term average annual precipitation includes floods and hurricane events occurring over time.

Data from Rutgers University.

0 ACRES - TOTAL SITE AREA (acres)
0.00 ACRES - AFFECTED AREA
0.00 METERS²/ACRE

15 METERS² (AFFECTED AREA)
Each catch basin = 20 ft² = 1.858 m²
1.858 m² x 8 = 14.86 m²

0.0010 METERS/YEAR (ERODED SOIL THICKNESS)
changed erosion rate to 0.1 mm/yr.

0.015 METERS³/YEAR (ERODED SOIL VOLUME)

1917 Year site operations began
2014 Year site processing and storage operations ceased
PAS-00123364
PAS-00123364

97 NUMBER YEARS DISCHARGE

1 METERS³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)

1,746 KG/M³ SOIL DENSITY
Assume organic silts. Bulk density range 1394 KG/M³ to 2098 KG/M³, so use average. (http://structx.com/Soil_Properties_002.html)

2,517 KILOGRAMS (TOTAL WT OF SOIL AFFECTED OVER TIME)

Copper (Cu)

0 YEARS DISCHARGED
MG/KG (MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)
0 KILOGRAMS DISCHARGED

Lead (Pb)

0 YEARS DISCHARGED
MG/KG (MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)
0 KILOGRAMS DISCHARGED

Mercury (Hg)

0 YEARS DISCHARGED
MG/KG (MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
<https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample>.

97 YEARS DISCHARGED
49.896 MG/KG (TOTAL PAH MAX CONCENTRATION)

Sum of Benzo(a)pyrene Equivalent conversion concentrations using maximum concentrations (FDR Table page 17; PAS-001028894-95)

0.000001 kg per mg (Merck Index)
0.126 KILOGRAMS DISCHARGED

PAHs (others detected)

97 YEARS DISCHARGED
92.3 MG/KG (TOTAL PAH MAX CONCENTRATION)
0.000001 kg per mg (Merck Index)

0.232 KILOGRAMS DISCHARGED

PCBs

0 YEARS DISCHARGED within PCBs Timeline
MG/KG (MAX OF REPORTED CONCENTRATIONS)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

DDx

0 YEARS DISCHARGED within DDx Timeline
MG/KG (CONCENTRATION)
3.785 L per gallon (Merck Index)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	27.000	1.0	27.0000
Benzo(a)anthracene	19.000	0.1	1.9000
Benzo(b)fluoranthene	34.000	0.1	3.4000
Benzo(k)fluoranthene	12.000	0.01	0.1200
Chrysene	26.000	0.001	0.0260
Dibenz(a,h)anthracene	17.000	1.0	17.0000
Indeno(1,2,3-cd)pyrene	4.500	0.1	0.4500

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 49.9

Dieldrin

0 YEARS DISCHARGED within Dieldrin Timeline
MG/KG (CONCENTRATION)
3.785 L per gallon (Merck Index)
0.000001 kg per mg (Merck Index)

0 KILOGRAMS DISCHARGED

Dioxins/Furans

0 YEARS DISCHARGED
MG/KG (CONCENTRATION)
0.000001 kg per mg (Merck Index)

calc kg COC discharged

SUMMARY CMASS ESTIMATES:

0.00 kg Copper
0.00 kg Lead
0.00 kg Mercury
0.13 kg PAHs (Benzo(a)pyrene Equivalent)
0.23 kg PAHs (Other)
0.00 kg PCBs
0.00 kg DDX
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

0.36 MASS (KG) DISCHARGED BY OVERLAND FLOW

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Garfield Molding Company, Inc.

10 Midland Avenue

Wallington

NJ

07057

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
8.011E-6	5.0%	Occasional Noncompliance	On July 2, 1974, PVSC wrote to Garfield confirming that their boiler blowdown was polluting (PAS-00102945). This violation was eliminated August 1974 (PAS-00102945). Several unpermitted discharges and other violations of the NJPDES-discharge permit were noted to have occurred during the historical operations, as well as deficiencies of the facility (e.g., spreading waste oil on the unpaved driveways to control dust) (PAS-00102947-9). There were several drum storage areas noted. The floor of Building 16 was heavily stained and a portion of the roof was missing.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	6.809E-6
AP_ABS						6.809E-6

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Garfield Molding Company, Inc.

10 Midland Avenue

Wallington

NJ

07057

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facility Adjusted BS
1.475E-3	5.0%	Occasional Noncompliance	On July 2, 1974, PVSC wrote to Garfield confirming that their boiler blowdown was polluting (PAS-00102945). This violation was eliminated August 1974 (PAS-00102945). Several unpermitted discharges and other violations of the NJPDES-discharge permit were noted to have occurred during the historical operations, as well as deficiencies of the facility (e.g., spreading waste oil on the unpaved driveways to control dust) (PAS-00102947-9). There were several drum storage areas noted. The floor of Building 16 was heavily stained and a portion of the roof was missing.	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	1.254E-3
						AP_ABS 1.254E-3